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ABSTRACT

A three-part study was conducted to present an indepth look at reading comprehension instruction in the middle grades. In the first part of the study, four basal series for grades 4, 5, and 6, were analyzed for clarity of communication, adequacy of skill practice provided, and a number of other comprehension related dimensions. In the second part, 17 teachers were videotaped as they taught two comprehension topic areas and were interviewed to get their perceptions of the texts they used and of their students' mastery of the material taught. These results were compared with those obtained from a larger sample of teachers who completed questionnaires. The third part of the study examined student achievement for the observed teachers on criterion-referenced tests designed to assess what was taught. Overall results indicated that (1) the text presentations were inadequate in terms of their instructional design features, (2) the teachers did not improve upon the texts, (3) teacher perceptions of how well they taught and how much their students learned were inaccurate, and (4) only 55% of the students learned 50% of the comprehension skills presented. (FL)

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Reading Comprehension Instruction in Grades 4, 5, and 6: Program Characteristics; Teacher Perceptions; Teacher Behaviors; and Student Performance

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A complete description of this study can be found in The Final Report: Implementation of Basal Reading in Grades 4-6, Engelmann and Steely, Project Directors, Engelmann-Becker Corporation, Eugene, Oregon.

*This study was designed and carried out by Siegfried Engelmann and Donald Steeley. Fran Goode, Joe Kuhn, Sarah Norris, Randy Sprick, and Paul Williams were assistants in the study. Donald Steeley coordinated the project and Wesley Becker helped with the experimental design. Jean Osborn and Adrienne Allen interviewed the teachers. We acknowledge and appreciate the many helpful comments made by Jean Osborn and Wesley Becker on an earlier draft of this paper.

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Abstract

This report presents findings from a three-pronged study of reading comprehension instruction in the middle grades. In part one, areas of reading comprehension were selected (such as main idea) and text material for their introduction, instruction, and practice were analyzed in depth for frequency, clarity, and adequacy. In part two, teachers were videotaped teaching two comprehension topic areas and interviewed about their instruction. In part three, the students were tested after the reading instruction to see how thoroughly they had mastered what the teachers had taught. The results showed that the text presentations were inadequate in terms of their instructional design features, that the teachers did not improve on the texts, that teacher perceptions of how well they taught and how much their students learned were inaccurate, and that only 55 percent of the students learned 50 percent of the comprehension skills presented.

Despite the well-documented fact that students spend approximately 70% of their time in school working with textbooks and workbooks (Gall, 1981) there have been few studies to examine instructional materials for their design characteristics, the adequacy of teacher presentations of the materials, and the student outcomes they achieve. Beck (1978) and Beck and McCaslin (1978) did some of the first work in this area when they analyzed eight beginning reading programs. In their analyses, they looked at dimensions that affect the development of code-breaking skills for compensatory education students, those students likely to have trouble learning to read. Beck and McCaslin (1978) analyzed: (1) how letter-sound correspondences are taught and (2) the pedagogy of the programs. They concluded: "If the pedagogy is so convoluted that the correspondences cannot be learned, or if it requires skills that young readers do not have, it matters little that the program contains exquisite sequencing" (p. 68). A further conclusion from Beck and McCaslin (1978) is that compensatory education students will have trouble learning to read if they are in the basal programs. For instruction in code-breaking skills, they favored the code-emphasis programs Distar (Engelmann & Bruner, 1974, 1975) and Palo Alto (Glim, 1973).

But, decoding is just one aspect of the reading process, and although there is recent research to suggest long-term success in reading comprehension for students who first learned to read with a synthetic phonics program (Meyer, in press), there is still substantial disagreement about the long-term effects of code-emphasis programs (Anderson, Mason, & Shirey, Note 1; (Carnine, Carnine, & Gersten, Note 2). Despite this controversy over long-term effects, and the unresolved conflicts between the meaning-emphasis and code-emphasis proponents, there is unquestionable consensus among reading researchers and curriculum developers that reading

comprehension is the major desired outcome for all students. Therefore, it is important to analyze beginning reading programs for instrutional dimensions that may affect reading comprehension.

Beck, McKeown, McCaslin, and Burkes (1979) analyzed two commercial reading programs to apply, "theory, research, logical argument, and our own teaching experiences and intuitions to an examination of instructional materials" (p. 2). Their analysis focused upon what they defined as: (1) textual problems, (2) picture characteristics, (3) previous knowledge assumed by the text, (4) vocabulary knowledge and application, (5) directions for setting the purpose for reading, (6) how the reading lesson is divided, and (7) questions to follow story-reading. Their conclusions from the analysis of the Houghton Mifflin Reading Series (Durr, 1976) and the Ginn Reading 720 Program (Clymer, 1976) were: (1) that basal reader vocabularies will be problematical for compensatory education students; (2) that the pictures used to illustrate the texts should be more carefully designed to depict meaningful events; (3) that too much background knowledge was assumed in the later primary and intermediate grade stories; and (4) that there was too much dependence on context as the primary source of vocabulary development. They were also concerned with the way basal stories are divided into reading units, the questioning techniques presented in the teacher's guides, and the need for students to develop an overall sense of the story's theme before focusing on direct questions (p. ?).

Two more recent studies paint similarly critical pictures of basal reading materials. Durkin (1981) analyzed the teacher's manuals for five basal readers for kindergarten through sixth grade. When she matched six definitions of comprehension instruction to the materials, she found that

the number of recommended instructional procedures ranged from 60 in one series to 128 in another. Number of review procedures ranged from 85 to 418, application from 111 to 538, number of practice from 495 to 832, number of preparation from 328 to 491, and number of assessment from 328 to 437. Durkin (1981) further described the, "scanty direct, explicit instruction" (p. 542) and the "tendency to offer numerous application and practice exercises" (p. 542).

A fifth study by Osborn (Note 3) looked exclusively at one component of a basal reader, the student workbook. In her work, Osborn (Note 3) stated, "The primary questions are about sufficiency, efficiency, and effectiveness" (p. 16). She then developed twenty guidelines for workbook writers and reviewers. These guidelines range from, "A sufficient proportion of workbook tasks should be relevant to the instruction that is going on in the rest of the unit or lesson" (p. 18) to, "Instructions to students should be clear, unambiguous, and easy to follow; brevity is a virtue" (p. 35) and, "When appropriate, workbook tasks should be accompanied by brief explanations of purpose for both teachers and students" (p. 92). Osborn concluded that application tasks--those kinds of items that give students practice in workbooks on concepts covered in readers seldom appeared, if at all, in the workbooks she reviewed.

To sum up, then there have been five major studies of basal reading materials in the last few years. These studies have looked at basal reading programs to determine the type and amount of practice given for decoding and comprehension in readers and workbooks from kindergarten through the intermediate grades. All of these studies have concluded that the basals lack sufficient direct instruction, sequential practice, and application practice in reading comprehension.

This present study is reported in three parts. The first part extended the analyses of Beck (1978), Beck and McCaslin (1979), Beck et al. (1979), Durkin (1981), and Osborn (Note 3) by reviewing four basal reading programs for grades 4, 5, and 6 for clarity of the communication, adequacy of skill practice provided in the texts, and several other dimensions. A second part of this study departed from previous work and observed teachers using these basal readers. The purpose of the observational study was to assess how teachers presented the materials and interacted with students. The observation study also included interviews with the teachers to get their perceptions of the texts they used and of their students mastery of the material taught. To establish the representativeness of the 17 teachers observed, they were compared to a larger sample of teachers using a questionnaire that was mailed to 3,000 randomly selected fourth, fifth and sixth grade teachers. A comparison of 8 of the 17 the observed teachers' responses with the responses from the 493 teachers who returned the questionnaire completed part two. A third part of this study looked at student achievement for the 17 observed teachers on criterion-referenced measures designed to assess what was taught.

Taken together, then, the three parts of this study were intended to present an indepth look at reading comprehension instruction in the middle grades. We analyzed the basal materials, observed teachers teaching reading, interviewed all teachers observed to learn their attitudes and perceptions about their work, and tested their students to assess overall student performance on reading comprehension tasks.

To simplify the presentation, each part of the study will first be reported separately and then they will be integrated.

Part 1. Analysis of Four Basal Reading Programs

We selected two commonly taught reading comprehension skills, finding the Main Idea, and working from Context Clues for tracking through grades 4, 5, and 6 in four basal reading programs. To perform this analysis, we counted every activity in each level of each basal. We then analyzed each appearance of these skills for clarity of presentation.

Method

Frequency. The first instructional-design variable examined for Main Idea and Context Clues was frequency of practice. This analysis involved all lessons on Main Idea in Ginn (Clymer, 1976), Scott Foresman (Scott Foresman & Co., 1974), Houghton Mifflin (Durr, 1976), and Holt, Rinehart, and Winston (1977). Main Idea and Context Clues were targeted for analysis because of the general interest in these areas by researchers studying reading comprehension, and the assumed ease with which these skills could be defined and contained. The first step was to impose a structure on the basals to make it possible to determine the frequency at which teaching presentations and student exercises appeared in the texts. By counting the total number of pages in texts for grades 4, 5, and 6, and then dividing this number by the 480 (assuming 160 instructional days per year for the three years) it was possible to divide the texts into "pages per lesson." A lesson was then defined as the pages covered during an average school day's reading period. This organization permitted a count of lessons between instruction or practice on Main Idea.

Clarity. The second, and admittedly much more subjective step in the analysis of Main Idea and Context Clue segments was to assess the programs' clarity of presentation. This step involved judging characteristics of the exercises such as ambiguity of the questions, examples, or rules; incorrect

or misleading answers to questions; consistent wording in the teacher presentation and workbook; and the wording used in review items for Main Idea and Context Clues.

Results

The results of the analysis for frequency and clarity of Main Idea presentations appear in Table 1. The average number of Main Idea presentations for the four programs for grades 4, 5, and 6 was 66. Of these 66 presentations, only 9 appear on the same day in both the student workbook and teacher's guide. Only 22 lessons out of 480 lesson days deal with Main Idea.

Insert Table 1 about here.

The analyses for clarity showed that a high percentage of the questions were "ambiguous and not taught" (88%). An example was considered not taught if one like it had not been presented in 50 days. Twelve percent of the answers were misleading and wrong. The probability of a correct interpretation from the examples given was only .27 (i.e., there was an average of four possible interpretations per sequence). In addition, there was a great deal of variation in how the examples appeared in the student workbook. Forty four percent of the time wording varied from one example to another. Eighteen percent of the time student workbook items varied in form from item to item. Teacher presentation wording in the teacher's guide varied 14% of the time, and teacher items forms varied 10% of the time. Furthermore, the student workbooks had a range of response variations and visual distractions. Last, but not least, there

were no correction procedures specified for any of the presentations in either the teacher's guide or for the student materials.

Durkin's work (1978-79, 1981) yielded results very similar to these.

Part 2. Teacher Observations, Interviews, and Questionnaires

This section reports the methodology and results for the videotaped observations made of 17 fourth, fifth, and sixth grade teachers while teaching selected comprehension tasks and the information gathered from interviews and a questionnaire with these teachers.

Method

Observations. Seventeen fourth, fifth, and sixth grade teachers from several school districts participated in this study. All of these teachers were volunteers. All teachers were using their regular basal reading program. First, they were taped teaching a comprehension topic scheduled for that day from their basal reading program. Next, they were taped teaching a designated Main Idea or other targeted topic (see Table 2 for a topic listing). All taping was done during a four month period. Both tapes of each teacher were first analyzed for teaching techniques, such as: the rate of their teaching presentation (the number of times the student responded per minute), the proportion of turns presented to the whole group and to individual students, the number of responses on which the teacher responded for or with the students, the amount and type of teacher praise, and the percentage of correct student responses.

The video taped lessons were next analyzed to compare the teachers' performances with the information/directions in the teacher's edition of their materials to see how closely the teachers followed the guides. Inter-rater percent agreements for coding these tapes was 85 percent for teaching techniques, and 80 percent for the comparisons to teacher guides.

Interviews. All teachers were interviewed before and after the two video tapings. These interviews were audiotaped and focused upon the teachers' perceptions of student performance, their knowledge of what they were teaching, their judgments of its adequacy, teaching procedures, etc. The interviews lasted approximately 40 minutes each. Only a segment of these interviews focusing on student performance expectations and program adequacy are reported below.

Questionnaires

Teaching behaviors. To determine how representative the 17 observed teachers were, questionnaires were sent to 3,000 fourth, fifth, and sixth grade teachers randomly selected from all over the United States. Sixteen percent of the questionnaires were returned. The questionnaires sampled the range of questions asked of the observed teachers. The same questionnaires were sent to the 17 teachers studied in detail. Because this occurred late in the school year, only 8 were returned.

Results

Observations

General teaching behaviors. The video tapes were first coded for general teaching behaviors (Table 3). These 17 teachers presented 16% of their questions to the group and 84% to individuals. Their presentations yielded 4.4 student responses per minute. Students answered twenty-seven percent of the questions incorrectly. Teachers corrected 37% of the students' errors. Of the 37% of the errors corrected, 10% of the time teachers asked their original questions to students again, presumably to see if the students could answer the questions after the correction. Teachers performed the tasks for the students 20% of the time (model), and

performed the task with the students 14% of the time (lead). Students responded independently the remaining 66% of the time (test). The teachers gave general praise 44% of the time, and more appropriate behavior-specific praise only 2% of the time. They gave negative feedback after 1% of the responses, and gave no feedback at all to over half the responses (53% of the time).

Insert Table 3 about here.

Do teachers follow the programs guidelines?. A second set of ratings served to compare the teachers' presentations to their program's specifications. Table 4 shows these results. This table shows the average number of questions per lesson that appear in the programs (8) and the average number of questions that the teachers asked (20). There is an almost equal percentage of program questions (42%) and teacher questions (48%) that are either ambiguous or misleading. Over two-thirds (69%) of the program questions were relevant to the topic presented in the reading selection, but only 24% of the teacher questions were relevant to the topic. The students were equally strong (78% to 77%) in their responses to program questions and teacher questions. The teacher prompted correct respondency 22% of the time, while the program questions prompted the answer only 12% of the time. These comparisons demonstrate that teachers more than doubled the number of questions they asked in comparison to the number specified in the programs. Equally surprising is that a much higher percentage (69%) of the programs questions were judged relevant to the reading topic than the teachers' questions. Most of the questions added by the teachers were irrelevant. The interview data, which are reported next point out further gulfs between teachers and their programs.

Insert Table 4 about here.

Interviews

During the interviews, the teachers answered questions related to how they expected their students to perform and their perceptions of the reading materials they used. Table 5 presents some of the interview outcomes. The interviews revealed that the teachers had high expectations for their students. They felt that 86% of their students should master all skills, and almost three-fourths (72%) of their students should be able to complete the workbook exercises for the lessons taped. The teachers anticipated, though, that over half (58%) of their students needed practice on the topic taught (main idea) and that a week's practice would be adequate. The teachers expected 56% of their students to master main idea. Yet they thought that their program was only 16% deficient for teaching students main idea.

Insert Table 5 about here.

Questionnaire

The questionnaire data which follow are from 493 fourth, fifth, and sixth grade teachers. These responses are compared with those of 8 of the observed teachers who completed the same questionnaire.

The two groups of teachers, those observed in the study, and those who responded to the questionnaire were demographically similar, and tney structured their classrooms in quite similar ways. Both groups taught

reading to about 27 students, and described their reading classes as "average." They taught reading in small groups, with between 5 1/2 and 6 hours of reading instruction per week. Seventy four percent of the teachers in both groups said they follow their teacher's guides.

Both groups agreed that over 80 percent of their students should be able to master any skill in their reading program. They perceived less than 20 percent of their lessons to focus on Main Idea, and that almost a third of their students (32%) knew Main Idea before the lessons, and only 60 percent of their students would master Main Idea. The observed teachers and questionnaire respondents were also in close agreement about the problems their students have with Main Idea. Thirty percent of the questionnaire respondents and 36 percent of the observed teachers said that their students confuse main idea with the titles of stories. A little over 40 percent of each group's students (42% and 45%) think the Main Idea is the first sentence of a story, and almost half (46% and 54%) think the Main Idea must be a sentence pulled directly from the text. Similar percentages (42% and 48%) expected their students to be unable to pick out the correct main idea if it is not expressed in a sentence in the text. A little over a third (36% and 44%) expected their students would not to be able to generate a Main Idea sentence. Table 6 summarizes the ways the observed teachers and questionnaire respondents were similar.

Insert Table 6 about here.

In addition to these areas in which the observed teachers and the questionnaire respondents were very similar in describing their own teaching and management, there were also a few areas in which the two groups differed. The questionnaire respondents claim that their students

miss almost twice as many (18% to 11%) instructional items in their reading lessons as the observed teachers. But, the observed teachers claim to correct twenty percent more student errors (88% to 68%) than the questionnaire respondents. Both groups of teachers say they ignore mistakes infrequently--15%-25% of the time. The teachers also differ on the frequency with which they tell students the answer and then repeat the question either to an individual or to the group to correct mistakes. The observed teachers practice both of these types of corrections at least twice as often (47% to 19% and 57% to 22%) as the questionnaire teachers. Likewise, the teachers disagree about when it is appropriate to help or guide students, except that they agree that it is appropriate to help them only 25% and 35% of the time if questions are open-ended. The two groups of teachers differ with respect to helping students with the observed teachers feeling it is appropriate to help students more often than the teachers who responded to the questionnaires. The areas of disagreement were if: (1) a skill is new (100% to 79%), (2) students won't master the skill without help (88% of the time to 59% of the time), and (3) students have not yet been taught the skill (88% of the time to 54% of the time).

Part 3. Student Performance and Teacher Expectations at the Conclusion of the Main Idea Lesson

This section of this paper compares how the observed teachers expected their students to perform on criterion-referenced items designed to measure student performance on a range of reading comprehension areas, with the students' actual performance.

Method

An additional area investigated in this work was the relationship between student performance on objective items designed to measure information presented in the two lessons videotaped for the observed teachers and the performance the teachers predicted their students would obtain. The test included items from the following eight categories: Main Idea, Key Words, Map Skills, Inference, Context Clues, Relevant Details, Cause/Effect, and Fact/Opinion. The purpose of this measurement was to see how accurately the teachers evaluated their students' performance after the Main Idea lesson.

These data were collected immediately after the teachers finished teaching the lessons to capture student performance immediately after the lesson. As students took the criterion-referenced tests, teachers responded to the interviewer's questions.

Results

Table 7 shows the results from the interviews and tests. To the question, "What percent of the students should master any skill?" the teachers responded 86%, though only 12% of their students then performed at or above 90% on all topics. Thirty percent obtained mastery if the criterion of performance is lowered to 75%, and 55% performed at the 50% criterion.

The teachers thought that over half their students had mastered the main idea items, though only 10% of the students actually performed at or above the 90% criterion, 33% performed at or above the 75% criterion, and 58% above the 50% criterion on Main Idea.

Insert Table 7 about here.

Table 8 shows the percentage of students who scored at 90, 75, and 50% on each topic. Of these eight categories, by far the highest student performance is on Relevant Details. The "relevant details" items are what are traditionally thought of as literal, or text explicit, comprehension questions. Twenty-four percent, eighty-two percent, and ninety-nine percent of the students are at the 90% correct, 75% correct, and 50% correct levels, respectively. The overall lowest student performance is on the Context Clues items with only 15% of the students scoring at 50%. Similar percentages of students perform at the 50% level (58%, 56%, and 60%) for Main Idea, Map Skills, and Cause/Effect. There is similar performance for Key Words and Fact/Opinion with 65% and 70% of the students testing at or above the 50%. The average performance across the eight categories has 12% of the students answering 90% or more of the items correct, 30% of the students at or above 75% correct, and only a little more than half (55%) at or above 50% correct.

Insert Table 8 about here.

In summary, there were several types of data presented in these studies: (1) an analysis of parts of four basal reading textbooks used in fourth, fifth, and sixth grades; (2) observations of general teaching behaviors for teachers teaching two comprehension lessons; (3) a report of teachers' expectations for student performance after the taped lessons from interviews and questionnaires; and (4) student performance on criterion-referenced tests designed to measure the skills taught in their reading

lessons. The next section of this paper provides a discussion to integrate these data and presents the implications of these findings.

Discussion

Basal textbook analyses. The analyses of Main Idea instruction in four basal reading textbooks (for grades four, five, and six) showed an average of 22 lessons for the three year period--about 7 lessons per year. The sparse number of lessons coupled with no specified correction procedures for students mistakes suggests that there may be less than adequate instruction and practice on this reading comprehension skill for most students.

In addition, a high percentage of the presentations are ambiguous, with many misleading or incorrect answers. The ambiguity of the questions and the wrong answers given complicate the instruction substantially. For example in one fourth grade program, an early lesson in the workbook dealt with the "plot" of a story. A lesson about halfway through the book introduced understanding the "topic" of a paragraph, while a lesson just one story later introduced Main Idea and details. Many of the questions in the workbook could easily be interchanged to focus on either Main Idea, plot, or topic, thus posing a confusing situation for teachers and students.

Variations in wording and format from example to example may present additional problems. While some authors might see variations in wording in either the students workbook or the teacher's presentation as a positive feature of their materials, it is doubtful that most variations are either helpful or necessary for lower-performing students. And, given the meager number of Main Idea lessons that students are exposed to, it is doubtful that they will either tire of or become dependent upon one pattern of

wording. While some might take issue with the way the number of lessons/level were calculated to determine which activities constituted each "lesson," the lessons presenting Main Idea are so few and far between that even very different metric that yielded a few days more or less between the activities could not make much difference.

These results are similar to those found by Beck and McCaslin (1978) and Beck et al. (1979) as they searched first (1978) for components in the first two levels of basals that would present adequate code-breaking skills, and then searched and analyzed again (1979) to see what kind of exercises are in the basals for teaching reading comprehension. They found a limited number of lessons devoted to skill instruction and practice. These findings also support Durkin (1981) when she concluded, "When instruction does appear in manuals, the connection between what is being taught and how to read is either minimized or entirely overlooked" (p. 542). Durkin continues, "As a result, identifying referents for pronouns, reading with 'a big voice,' distinguishing between facts and opinions, finding topic sentences--all these activities become ends in themselves" (p. 542). Durkin was describing basal manuals for kindergarten through sixth grade, and her findings are replicated in the first portion of this work. The lack of direct teaching and adequate practice would probably make the reading task difficult for most students.

Teacher observations. The second study looked at general teaching behavior--such as those identified as generic direct teaching behaviors by Stevens and Rosenshine (1981) and unique to the University of Oregon Direct Instruction Model (see, for example, Meyer, Gersten, & Gutkin, 1983). The overall slow presentation rate (4.2 responses/minute--one response roughly every 15 seconds) suggests a great deal of teacher talk with student

responses sprinkled in just occasionally. The high percentage of questions to individual students, low percentage of errors corrected (37%), and the high ratio of general, instead of behavior-specific praise suggests an overall slow-moving teaching sequence focused primarily upon individual students, most probably the high performing students. These teaching behaviors are not surprising given the information gleaned from the analysis of the basal textbooks. Recall, for example, that there are no correction procedures specified in the texts.

When the teaching behaviors were compared to the program specifications, the biggest difference in program specification and teaching behavior was that the teachers averaged 20 questions per lesson while teaching Main Idea, though the program specified only 8 questions on the average. An analysis of the video tapes provided a simple explanation for this 25% difference between the number of questions that the programs specified and the number of questions the teachers asked. Perhaps because the programs lacked correction procedures, teachers often corrected students by asking additional questions. Therefore, the additional questions are in part an index of the number of mistakes the students made.

This discrepancy in the number of questions asked may also explain the difference in the percentage of the program questions relevant to the topic (69%) compared to the percentage of teacher questions relevant to the topic (24%). Teachers often used additional questions as correction procedures. Often, these "correction questions" were irrelevant to the topic. The other areas examined comparing teacher behavior and program specifications suggest that the teachers model their behavior after their programs guides. (This was also confirmed by interviews.)

Interview and questionnaire responses. The questionnaire responses showed very few areas (about 12%) where the 8 teachers observed differed

from the 493 representative teachers who returned the questionnaire. The two groups of teachers gave precisely the same answers when asked if they followed their basal programs--three fourths of the teachers in both groups said that they followed their teaching materials. They did, however, misjudge the content of their programs. Similar data have recently been gathered by Mason (Mason, note 4) when she had teachers search for examples of various reading comprehension activities in science and social studies materials. Mason reports that teachers were often surprised when they could not "find" lessons on a topic such as main idea, or cause/effect. As noted previously, the teachers also drastically overestimated the percentage of their students who had mastered main idea and other skills tested on the criterion-referenced tests developed for this study.

Student outcomes. Overall student performance on the eight categories tested on the criterion-referenced tests was low--only 12% of the students reached the 90% criterion, 30% the 75% criterion, and 55% the 50% criterion. This overall low performance demonstrates that very few students mastered any of the "higher order" comprehension skills such as main idea or cause/effect.

These scores are particularly disturbing in light of the teachers' expectations. The teachers expected 86% of their students to master any/all of the reading comprehension skills. The teachers thought that over half of their students (56%) had mastered Main Idea when in effect only 10% of the students tested were at or above 90% mastery on Main Idea.

These criterion-referenced test scores may be cause for alarm for two reasons. First, these scores demonstrate how poorly students are performing on these skills. Students have failed to master virtually all of the skills. Second, and perhaps even more alarming, teachers expected

their students' performance to be much higher than it was. Teachers perceived that most of their students had mastered these reading comprehension skills and could perform the related workbook tasks. In fact the teachers' judgment was far from accurate. This discrepancy suggests that teachers either misinterpret their students' performance or evaluate incorrectly aspects of their students' performance. Another explanation for student performance that is so far below their teachers' expectations is that teachers simply had an inadequate number of criterion measures in the basal lessons upon which to make accurate judgment. In addition, if most of their individual turns went to their higher performers, it is easy to see why teachers might have the perceptions they had.

Implications

The results of this study have far-reaching implications. First, the analysis of the texts revealed that there are actually few lessons in the materials that "teach" Main Idea. From the overall student performance on the criterion-referenced tests, it is probably safe to wager that basals cover other reading comprehension skills as poorly. One message to the developers of basal readers is clear--there simply is not enough systematic, well-designed instruction and practice on reading comprehension skills in the present materials.

It is therefore no wonder that compensatory education students continue to score poorly on norm-referenced and criterion-referenced tests of reading comprehension. The basal reading programs must be revised to include more direct teaching and practice in reading comprehension. Students would no doubt benefit from practice on expository as well as narrative text. At this time, most reading instruction in the middle grades continues on narrative texts, though students are expected to handle

expository material and learn to read in the content areas. Wouldn't it make sense to provide reading practice on expository texts during in the basal reader?

The average performance of these teachers is also alarming. By presenting items slowly to individual students, and by correcting just over a third of the errors, there is room for a great deal of improvement in their overall teaching performance.

The results of this study also suggest that teachers need to be taught how to evaluate student performance. The frequent discrepancy between what teachers perceive and report and what is observed was documented earlier by Hook and Rosenshine (1979). The obvious conclusion based upon the discrepancies between the teachers' self-report data and observational data is that teachers perceive and/or report their behavior and their students' behavior inaccurately. How might we improve this situation? If teachers gave frequent, valid criterion-referenced tests and/or some other type of monitoring procedure to secure objective, accurate assessments of their sutdents they might judge the students' performance more accurately. If students were tested often on what they had been taught, and if teachers interpreted the test results quickly, they could remediate problems efficiently before continuing instruction and thereby continuing to build on a shaky foundation.

There is substantial evidence that a student monitoring system such as the one suggested above is one of several variables correlated to increased student achievement in effective schools for compensatory education students (Edmonds, 1979). Criterion-referenced monitoring has also been identified as an important variable in a variety of schools that have adopted the Direct Instruction Follow Through Model (see Meyer, Gersten, & Gutkin, 1983; or Meyer, 1983 for descriptions of this criterion-referenced

monitoring system). In fact, such a testing system usually helps teachers become objective in their assessment of their students simply by providing frequent feedback to teachers on all students.

Extensive experience with a criterion-referenced testing system developed for the Direct Instruction Follow Through model has led one district to develop a similar testing system for their basal readers (Costello, Note 5). Teachers administer these tests every six weeks to determine student achievement in their basal readers just as they do in the Direct Instruction materials.

While the short-term objective would be to develop paper and pencil procedures for monitoring student achievement, a long-term goal would be for teachers to become more sensitive to the performance of their students, and more direct in their teaching so that they would be constantly "testing" as they teach all students to be certain that students have mastered skills.

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Table 1

Frequency and Clarity of Main Idea Presentations in the Four Basal Readers Grades 4, 5, and 6

	Mean Across Programs
Frequency	
1. Total number of program examples of main idea	66
2. Number of student examples on the same day as teacher material	9
3. Total number of lessons in which main idea is presented	22
4. Average lesson days since two examples were presented	62
Clarity	
1. Percentage questions ambiguous and not taught	88
2. Percentage of questions misleading or wrong answer is given	12
3. Probability of a correct interpretation. (Implies an average of 4 interpretations possible per lesson sequence)	27
4. Percentage of variation in:	
a. student workbook wording	44
b. student workbook items forms	18
c. teacher presentation wording	14
d. teacher items forms	10
5. Percentage student workbook:	
a. response variation	13
b. visual distraction	25
6. Percentage of examples for which a correction is specified	0

Table 2

Teachers' Reading Comprehension

Lessons Video-Taped

Teacher	Topic A	Topic B
1	Story types	Main idea
2	Main idea	Map skills
3	Story comprehension	Main idea
4	Main idea	Story comprehension
5	Vocabulary	Context clues
6	Story comprehension	Main idea
7	Parts of a book	Parts of a book
8	Parts of a book	Main idea
9	Main idea	Map skills
10	Map skills	Main idea
11	Communications lab	Main idea
12	Vocabulary	Main idea
13	Vocabulary	Keywords
14	Dictionary skills	Inferences
15	Verbs	Context clues
16	Metaphor/simile	Main idea
17	Main idea	Cross references

Table 3

Observed Teaching Behaviors

Activity	Percentage
Teachers' Presentational Behaviors	
Group Tasks	16%
Individual Tasks	84%
Student Responses/Minute	4.4%
Student Error-Rate to Teacher Questions and Corrections	
Student Errors	27%
Error Corrected by Teacher	37%
Errors Corrected and Retested by Teacher	10%
Teaching Strategies	
Models	20%
Leads	14%
Tests	66%
Teacher Feedback	
General Praise	44%
Specific Praise	2%
Negative Feedback	1%
No Feedback	53%

Table 4

Comparison of Teacher and Program Questions

Question Aspect	Programs (N = 4)	Teachers (N = 17)
Average number of questions asked per lesson	8	20
Percent of questions ambiguous or misleading	42%	48%
Percent relevancy of questions to reading topic	69%	24%
Percent correct student responses	78%	77%
Percent prompted responses	12%	22%

Table 5

Teachers' Anticipated Student Outcomes

and Program Characteristics

Teacher N = 17

Percentage of students that:	
Should master all skills	86%
Should do workbooks accurately after lesson	72%
Need more practice on topic taught	58%
(Amount of additional practice needed--1 week)	
Should master main idea	56%
How deficient is the program for teaching main idea?	16%

Table 6

Comparison of Similarities Between

Observed Teachers and Questionnaire Respondents

Category	Observed Teachers (N = 8)	Questionnaire Respondents (N = 493)
Number of students taught	28	26
Description of class	average	average
Organization for reading	small groups	small groups
Hours per week teaching reading	6.2	5.5
Percentage of groups reported:		
to Follow Teacher's guide	74%	74%
Percent S's should master any skill	84%	81%
Percent lessons focused on main idea	8%	18%
Percent S's who knew main idea before instruction	32%	32%
Percent who would master main idea	60%	60%
Teachers' perceptions of Student Problems		
Percent who confuse main idea with title	36%	30%
Percent who think main idea is the first sentence	45%	42%
Percent who think main idea must be a sentence from text	54%	46%
Percent who can't pick out main idea	48%	42%
Percent who can't generate main idea sentence	44%	36%

Table 7

Teacher Expectations and Student Performance

1 a.	What percent of the students should master any reading skill?	86%
b.	Percent at 90% cut all topics	12%
c.	Percent at 75% cut all topics	30%
d.	Percent at 50% cut all topics	55%
2 a.	What percent of students should master main idea?	56%
b.	Percent at 90% cut main idea	10%
c.	Percent at 75% cut main idea	33%
d.	Percent at 50% cut main idea	58%

Table 8

Student Criterion-Referenced Scores in Eight Reading Comprehension Categories

Comprehension Skill	Percent S's at or above 90%	Percent S's at or above 75%	Percent S's at or above 50%
Main Idea	10	33	58
Key Words	8	32	65
Map Skills	30	33	56
Inference	15	30	62
Context Clues	0	0	15
Relevant Details	24	82	99
Cause/Effect	10	30	60
Fact/Opinion	0	25	70